Thin films: technological progress or another bubble?

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Solar Energy offers a potential fuel source for much needed low carbon energy. Challenges face the solar industry as it seeks to get costs down low enough to provide cheaper energy than fossil fuels. This study seeks to evaluate the potential for current technologies and future evolutions of thin film solar to meet industry's needs.

Current understanding of thin films is only partly complete. Current industrial development plans are built off various assumptions regarding the technical and manufacturing capabilities. A better evaluation before the industry build out decision would enable the best use of resources. Here the final evaluation before industrial build out is one of the optimal focus points for understanding.

The past history of thin film solar build outs and declines offers gaps in undestanding. This proposal seeks to turn those gaps into an opportunity. That better understanding of the 1990s offers a better building block from which to construct the future industry. Gaps may exist in the arragement of the productive capability of current industry resources deployed, as can be seen in past examples of industrial organization.

This proposal seeks to advance Understanding at these key points of industry. These key points of knowledge advancment offer a high economic value per unit of effort applied. In this way, the reason for this proposal serves two goals at once: 1) high value per unit of information generated by research and 2) minimizing the amount of time and effort employed.

The outcome of this research's decisions should seek to advance the interests of many stakeholders. Early consideration of the planned industrial buildout offers better use of substitutable resources. If the proposed research determines that thin films are not worth pursuing, then resources can be steered away from thin film solar and toward information technology or integrated circuits. If the proposed research determines that thin films offer a promising opportunity, research and manufacturing from other industries can steer toward thin film efforts.

The outcome of this research proposal is expected to be a valuable contribution to the valuable point of decision making explained above. This benefit workers who are steered toward better opportunity, customers who get a cheaper product build out, and growth potential as a whole.